

In all years displayed, Montana's overall (i.e. all cause) age-adjusted rates are below those for the U.S. This is true for many of the chronic diseases displayed; Montana's rates for heart disease, cancer, nephritis, and chronic liver disease and cirrhosis were lower than those for the U.S. in nine or ten of the ten years displayed. These underlying causes accounted for slightly more than half (50.1%) of all deaths of Montanans in 2000. Values of the age-adjusted death rates for nephritis were increased by the conversion to ICD-10.

Montana's rates for cerebrovascular disease, pneumonia and influenza, and diabetes showed inconsistent relationships with the U.S. rates, with the trend lines crossing each other more than once in this period. Both Montana and U.S. rates for pneumonia and influenza were substantially decreased by the revision of ICD. Diabetes rates for Montana were higher than those for the U.S. in four of the eight years in which underlying cause of death was determined with the rules of ICD-9. The U.S. diabetes rate seems relatively unaffected by the conversion to ICD-10 while the Montana diabetes rate appears to have increased (but this may be the result of a change in a relatively small number of deaths from diabetes and have nothing to do with the revision of ICD). Montana's rates for cerebrovascular disease were higher than those of the U.S. for seven of the eight years in which ICD-9 coding rules were used. Montana and U.S. rates for this cause were nearly identical to that for the U.S. under ICD-10 coding rules. It is not apparent that ICD revision had any effect on these rates.

The state rates for chronic lower respiratory disease (C.L.R.D.)--which includes chronic and unspecified bronchitis, emphysema, and asthma--were higher than those for the U.S. in all years displayed. Revision of ICD did not change these relationships. Montana's Alzheimer's rate was virtually the same as that of the U.S. in 1997, but higher in all other years. Revision of ICD substantially increased both Montana and U.S. rates.

Montana's rates for the traumatic causes of death displayed, accidents (both motor vehicle and non-motor-vehicle) and suicide, were higher than those for the nation in all years displayed, irrespective of the ICD coding rules. These rates do not appear to have been affected by ICD revision.

It is also instructive to examine the change in Montana's rates over time. These graphs show reductions in Montana's overall death rates and rates for specific chronic diseases such as heart disease, cancer, cerebrovascular disease, and chronic liver disease and cirrhosis for this ten-year period. The rates for diabetes and nephritis are on the increase, although the trends are somewhat inconsistent and possibly affected by the conversion of ICD coding. There seems to be no clear trend for the other causes of death displayed.

AGE, SEX, AND RACE

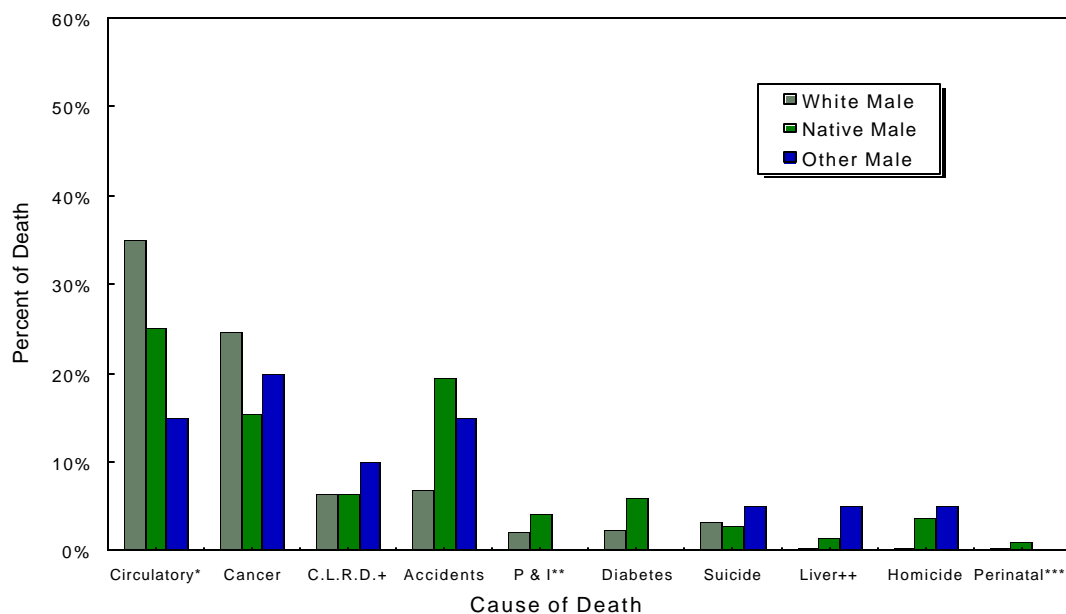
Cause of death is age, sex, and race-dependent. Heart disease and cancer were, in 2000, and have been for years, the first and second leading causes of death in Montana, claiming the largest numbers of persons of all races and both sexes. Females dying of heart disease tended to be older than males, although this disparity tended to diminish after the age of 49. After 55 years of age, the proportion of women who died from heart disease was essentially the same as that for men. Persons less than 50 years old who died of cancer were most often women; those older than 50 were most often men. The majority of cancer deaths occurred after the age of 55 for both sexes.

The frequency of Montana resident deaths by sex, and age is shown in **Table 9** for 358 selected causes of death. The frequency of death by sex and race is shown in **Table 10** for 113 selected causes of death. These causes are used by NCHS for ranking causes of death. Those causes preceded by a pound sign (#) are used for ranking causes for decedents of all ages. **Figure 44** shows, graphically, the percent distribution for nearly four fifths of these deaths by cause, race and sex categories for males. **Figure 45** shows the distribution among these underlying causes of death for females.

When shown as a proportion of all deaths for calendar year 2000, circulatory system diseases (which include the two leading “rankable” causes of death—heart disease and cerebrovascular disease—as well as atherosclerosis) accounted for the greatest percentage of deaths of all causes shown. Specifically, 35% of both white males and white female decedents, 25% of Native American male decedents, and 24% of Native American female decedents died of diseases of the circulatory system--primarily heart disease, cerebrovascular disease and atherosclerosis. One-quarter of white male decedents and a little over one-fifth of white female decedents died of cancer. Comparable proportions were 15% and 20% for Native American males and females, respectively. However, accidents were the second leading cause of deaths for Native American males, accounting for 19% of their deaths; the proportions of deaths from this cause were smaller for Native American females (12.7%), white females (4.2%), and white males (6.7%).

Figure 44

**PERCENT DISTRIBUTION OF DEATHS BY SELECTED CAUSE AND RACE
MALE MONTANA RESIDENTS, 2000**



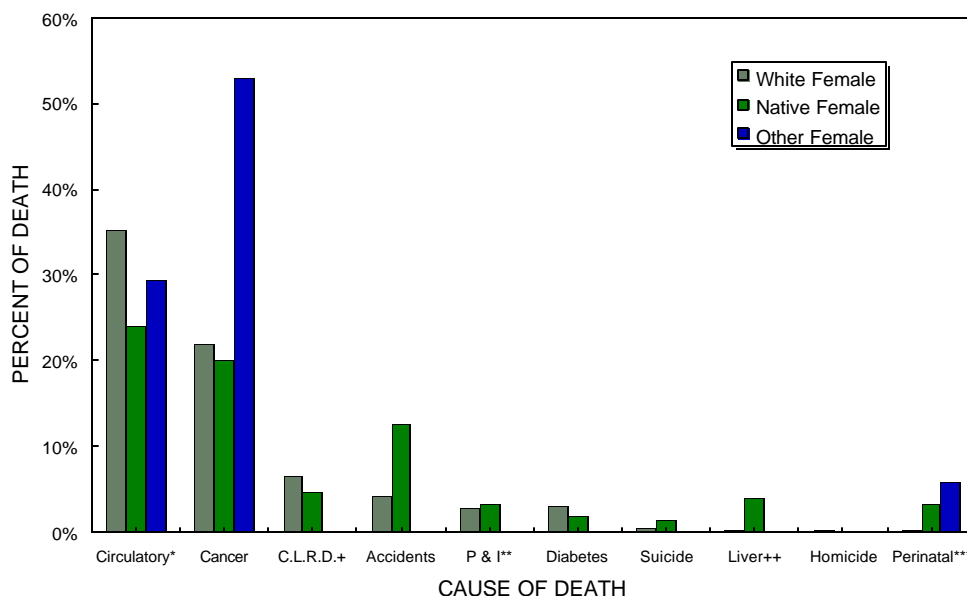
- * Diseases of the Circulatory system
- + Chronic Lower Respiratory Disease (C.L.R.D.)
- ** Pneumonia and Influenza
- ++ Chronic Liver Disease and Cirrhosis
- *** Certain Conditions Originating in the Perinatal Period

Homicide, suicide, chronic liver disease and cirrhosis, and conditions originating in the perinatal period did not constitute large percentages of deaths in any of these groups, but the distribution among races and sexes is of interest. The proportion of deaths from homicides for Native American males was 3.7 %, roughly ten times that for white males. Predominantly, individuals who committed suicide were males. Three and two-tenths percent of white male decedents committed suicide while only 0.5% of white female decedents did so. Corresponding percentages for Native Americans were 2.8% for males and 1.3% for females.

About four-tenths of one percent of both white male and white female decedents died of chronic liver disease and cirrhosis. These proportions were much larger for Native American males (1.4 %) and females (4.0%). Nine-tenths of Native American male decedents and 3.3 % of Native American female decedents died of conditions originating in the perinatal period. Corresponding proportions for white decedents were 0.25% and 0.19% for males and females, respectively.

Figure 45

**PERCENT DISTRIBUTION OF DEATHS BY SELECTED CAUSE AND RACE
FEMALE MONTANA RESIDENTS, 2000**



- * Diseases of the Circulatory system
- + Chronic Lower Respiratory Disease (C.L.R.D.)
- ** Pneumonia and Influenza
- ++ Chronic Liver Disease and Cirrhosis
- *** Certain Conditions Originating in the Perinatal Period

Those who died of heart disease were most likely men older than age 35. After 35, the deaths due to heart disease were predominantly men until after 55 years of age; then the women's proportion was roughly equal to that of men. Accidental death victims in 2000 were most likely to be men in their late teens to early twenties or in their early forties. The Montana resident committing suicide was likely to be a man, between 40 and 54, using a firearm. Montana resident homicide victims were most likely to be males (24 males compared to 11 females). Nearly three-quarters of the homicides involved use of a firearm.

Table 9 also shows the frequency of accidental deaths of Montanans by age at death and type of accident. Motor vehicle accidents accounted for the majority of accidental deaths for those from 10 to 64 years of age and for more than one-third of the accidental deaths of younger children.

Figure 46 displays leading causes of death by age group for Montana residents. In 2000, sudden infant death syndrome, certain conditions originating in the perinatal period, and congenital anomalies, accounted for more than three-quarters of the infant deaths. Deaths due to conditions originating in the perinatal period—including maternal factors and complications of labor and delivery, birth trauma, infections, and respiratory, cardiovascular, and digestive system disorders specific to this period—were the leading cause of death in the “under one year” age category—(38.1%), followed by congenital anomalies—including malformations of the nervous system, eye, ear, face, neck, and circulatory, respiratory, and digestive systems—(22.2%). Accidents (38.9%) were the leading cause of death for decedents aged 1 to 4 years. **Table 12** displays the frequency of infant death by race, age in days, and 130 selected causes of death. Those causes preceded by a pound sign (#) are used for ranking causes for infants only.

Less than one and one-half percent of Montana decedents were 14 years of age or younger in 2000, with accidents accounting for 28.3% of those deaths. In the age group of 5-14 year olds, accidents accounted for over half of the deaths. More than seven and one-half percent of Montana’s decedents were age 44 or younger. Accidents accounted for slightly more than one-third of deaths in that age group. Suicide constituted the second leading cause of death for the age category 15 to 44 (12.7 %). Of these decedents, 87.5% were males.

Cancer, followed by heart disease, was the leading cause of death for all of the age categories between 45 and 74. However, for the age categories 75 and older, heart disease was the leading cause, with cancer second.

For the all-age category, heart disease (24.6 %) was the leading cause of death, followed closely by cancer (23.1 %). Cerebrovascular disease (6.4 %), C.L.R.D. (7.2 %), and accidents (6 %) were a distant third, fourth, and fifth, respectively. Frequencies and crude rates for the ten leading causes of death are shown for Montana and each of its counties in **table 26**.